Exercise duration (in seconds) by exercise test and QOL score assessment by Kansas City Cardiomyopathy Questionnaire (KCCQ) and Serum BNP level. In ivabradine group, patients were started on ivabradine5 mg in twice daily dose, in addition to OMT. Patients were followed up for 6 months. At the end of six months, LV dimensions, LV function, serum BNP levels, QOL and exercise duration were re-assessed.
Results: At six months, though there was significant reduction of heart rate (70.60 ± 5.06 vs 91.33 ±8.9, $p < 0.0001$) and improvement of QOL score ($p= 0.004$) and NYHA functional Class($p= 0.007$) with ivabradine group compared to OMT group, ivabradine failed to show significant improvement in LVEF(35 ±3.71 vs 33±4.24, p=NS), Exercise duration (320 ±130.6 vs 311.79 ±103.60, $p= 0.663$) and BNP level (248.64 ±175.70 vs 312.57 ±222.6, $p= 0.22$). Subgroup analysis showed significant improvement in LVEF (35.71±2.98 vs 33.50 ±3.73, p=0.003) in patients with ivabradine who achieved heart rate less than 70(n=25). No significant adverse effects on ivabradine therapy were noted at the end of six months.
Conclusions: Ivabradine when added to optimal medical therapy, in NYHA Functional Class and QoL in patients with ischemic heart failure. Improvement of Left ventricular function also occurs in presence of adequate heart rate lowering (HR<70/ min).

Efficacy of levosimendan compared with dobutamine in low-output heart failure

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Background: Levosimendan, a calcium channel sensitiser, improves myocardial contractility without causing an increase in myocardial oxygen demand. This study was done to compare the effects of levosimendan and dobutamine on clinical outcome in patients with low-output heart failure.
Methods: Patients were eligible for participation in this study if they had symptomatic low output heart failure. Overall 175 patients were enrolled in this study. Under continuous haemodynamic monitoring, an initial loading dose of levosimendan of 24 mcg/kg was infused over 10 min, followed by a continuous infusion of 0.1 mcg/kg/min for 24 h. Dobutamine was infused for 24 h at a dose of 5 mcg/kg/min. The primary endpoint was the proportion of patients with clinical improvement.
Results: 100 patients were given levosimendan and 75 dobutamine. The clinical improvement was achieved in 28 (28%) levosimendan-group patients and 15 (20%) in the dobutamine group p=0.02). At 6 months, 20 (20%) levosimendan-group patients had died, compared with 25 (33%) in the dobutamine group p=0.02).
Conclusion: In patients with severe, low-output heart failure, levosimendan improved clinical outcome more effectively than dobutamine. Lower mortality was noted in levosimendan group upto 6 months.

Correlation of clinical spectrum, echocardiographic, and angiographic patterns in patients with apical ballooning syndrome in a tertiary care centre of North India

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Background: A cardiac syndrome of "apical ballooning" is being increasingly encountered in routine cardiology practice as it usually mimics acute coronary syndrome at presentation and therefore mandates demonstration of non critical coronary artery disease on coronary angiogram for diagnostic confirmation but its feasibility is scarce in our country. We sought to assimilate clinical, echo-cardiographic and angiographic features of this syndrome at a tertiary care setting from carefully selected cases of apical ballooning and develop an algorithm which should help the emergency physician in making a simpler bedside diagnosis of this syndrome.
Methods: Patients apparently admitted with acute coronary syndrome but subsequently given the diagnosis of transient LV apical ballooning syndrome at our institution from January 2011 to June 2013 were taken prospectively.
Results: Twelve patients were enrolled, mean age was 50±12 years, 10 (83%) were women. Trigger events could be identified in 9(75%) patients (emotional stress in 3 (25%),post vocal cord surgery in 1(8%), hemiarthroplasty in 1(8%), cervical spine surgery in 1(8%), cervical trauma in 1(8%), gastrointestinal infection in 1 (8%), road side accident in 1(8%). Presenting symptoms were; chest pain or discomfort in 3 (25%), NYHA grade III/IV dyspnoea in 9(75 %) patients. 7 (58%) patients had elevated creatine kinase MB and troponin T levels, but the levels were usually only marginally elevated. Electrocardiographic changes observed were ST-segment elevation in 3 (25%), pathological Q waves in 3(25%), mainly in the leads V_{1-4}.ST-segment depression was found in 4 patients (30%),3 patients (25%) exhibited T-wave inversion without ST-segment shift.3 patients presented with cardiogenic shock and 1 patient with ventricular tachycardia. Echocardiographic parameters mean ± SD LV end-diastolic volume was (115.9±4.0 mL) mean ± SD LV ejection fraction was (28.2%±2.5%). None of the patients had an E/Em ratio of more than 15. In all 12 patients, left ventricular systolic function recovered completely within three weeks. The systolic strain rate was decreased from base to apex, but the early diastolic strain rate from base to apex was marginally reduced (+3±0.5).
Conclusion: In patients with suspected ABS, clinical history of acute physical/emotional stress with ECG changes mimicking ischemia/infarct, echocardiographic systolic/diastolic paradox with or without contrast echocardiography is helpful in categorization of these patients.

Study of the role of ivabradine in acute heart failure

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Background: Ivabradine is a drug which acts by selectively blocking If current in the SA Node. It is approved for use in chronic congestive heart failure. In patients with acute decompensated systolic heart failure, tachycardia could be either a compensatory mechanism or contribute to worsening heart failure. There are situations where using a beta blocker is not an option.The present study was planned to assess the feasibility, safety and efficacy of using Ivabradine in acute heart failure.

Methods: A retrospective analysis of 28 patients of acute heart failure (all due to different spectrum of acute coronary syndrome) in whom ivabradine was used was done. All of them had an ejection fraction of <50%, resting heart rate >70 bpm and SBP> 100 mm Hg without inotropes. The patients were receiving standard guideline directed therapy including beta blockers wherever indicated. Ivabradine was started in a dose of 2.5 mg BD and increased upto 7.5 mg BD in accordance with the patient's clinical condition. The patient's clinical parameters were recorded at the time of initiation of Ivabradine and 24-hours and 7 days after initiation of therapy.
Results: A total of 28 patients (mean age 60.3 years, 20 males) constituted the study group. Baseline mean Heart rate (HR) was 96 (70-128) bpm and systolic Blood pressure (SBP) was 110 mm Hg(100-134mm Hg). Patients in NYHA II, III and IV numbered 19, 9 and 0 respectively when the therapy with ivabradine was started. HR decreased by 2.7 ± 0.2 bpm after 24 hours (p =NS) and 14.3 ± 7.2 bpm at day 7 (p = 0.008). The systolic blood pressure decreased by 2.4 mm Hg after 24 hours (p = NS) and 4.1 mm Hg at day 7 (p=0.091) . Patients in NYHA class II and III at 24 hours was 20 and 8 respectively. At 7 days, 8 patients were in NYHA I, 17 in NYHA II and 3 in NYHA III. No worsening of NYHA class was noted in any patient at 7 days.
Conclusion: Initiating Ivabradine in patients of acute heart failure during hospital stay is both safe and effective.

The safety and efficacy of renal denervation therapy in chronic heart failure patients using a standard cardiac ablation catheter

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Background: Chronic heart failure is associated with sympathetic activation characterised by elevated circulating norepinephrine levels which are linked to cardiovascular morbidity and mortality. Surgical renal denervation has been shown to improve both renal and ventricular function, although all these studies have been conducted on animal models so far. In humans the safety and efficacy of renal denervation therapy has been studied in treatment of drug resistant hypertension only. Limited data exist regarding renal denervation therapy in chronic heart failure patients. All these studies have used specifically desingnedcathers which are not cost effective especially in developing countries.

Our study is the first randomised study of renal denervation done in patients of chronic heart failure using standard radio frequency cardiac ablation cathers.
Aim and objective: To demonstrate the safety and efficacy of renal denervation therapy in chronic heart failure patients using the standard cardiac radiofrequency ablation catheter.
Method: Thirty eight patients with chronic heart faiulre with LVEF< 40 % on optimal heart failure therapy were enrolled and randomized into two group:

(a) interventional group (n = 18) and; (b) conservative group (n = 20). Out of the 18 patients in the interventional arm, 15 underwent successful bilateral renal denervation. In all these patients standard radio frequency cardiac ablation cather was used. Patients were admitted for pre-procedure baseline assessments and inpatient observation for 2 days following denervation. Follow up was done at 1st week, one month, three months, six months and one year.
Results: No significant haemodynamic disturbances were noted during the acute phase post renal denervation. Over one year of followup there was a non-significant trend to blood pressure reduction (Δsystolic −5.2±5.9 mm Hg, p=0.35; Δdiastolic −1.2± 3 mm Hg, p=0.70). No hypotensive or syncopal episodes were reported. Renal function remained stable (Δcreatinine −5.7±8.4 μmol/l, p=0.52 and Δurea −1.0±1.0 mmol/l, p=0.33).

As compared to the conservative group, in the interventional group there was a significant difference at 12 months of follow with respect to increase in 6 min walk test(537±103meter to 603±119 vs 499± 98 to 533±99 p 0.001) , increase in LVEF(27.3±11 to 33.1±13 vs 28.1±12 to 30.1± 14 p< 0.001) and reduction in NT -pro BNP levels(1896 ±79pg/ml to1324±67 pg/ml vs 1903±95 to 1765±89 p<0.001)
Conclusions: This study found no procedural or post procedural complications following renal denervation in patients with chronic systolic heart failure at 12 months follow-up. Results suggested a significant improvement in interventional group as compared to conservative group in terms of 6 min walk test, LVEF and NT pro BNP levels.

Hence, to conclude sympathetic renal denervation is not only safe but also efficient in patients of chronic heart failure and standard cardiac ablation cathers can be as effective and safe as specially designed cathers.

Prognostic correlation of quantitative cardiac troponin T (cTnT) estimation in acute decompensated heart failure patients admitted in a tertiary care hospital

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Background: Presence of hsTnT was also a strong independent predictor of mortality and provided prognostic information in heart failure patient increamental to that provided by other powerful predictor of outcome like BNP.
Methods: In this study 100 patient of acute decompensated heart failure who were admitted in the cardiology indoor of IPGME&R, SSKM hospital kolkata between February 2012 to September 2013 were enrolled. It is prospective observational study.within 24 hours of admission quantitative serum analysis was done and the positive were categorized as troponin T positive(>50ng/l) or troponin T negative(>50ng/l).
Results: The study shows significant number of patients(n=66) were positive for hsTnT. Systolic blood pressure is reduced significantly(p<0.001) on follow up study in hsTnT positive patients. FBS(>126mg/dl) is significantly increased on admission in hsTnT positive patients(131.4+42.9) in compared to hsTnT negative patients.(mean+SD=98+33.2) (p=0.049). LVID(d) is singificantly increased at admission, discharge and follow up study. The reduction of EF(%) is statistically significant(p=0.03CI=0.75 to 0.94 and odd ratio 0.84) in the three months follow up study. Duration of stay in hospital is more in hsTnT positive patients than troponin negative patients as detailed in descriptive study above. The value become statistically significant in our study(p=0.001).
Conclusion: The patients with troponin T positivity show higher mortality (both in hospital and outside) and recurrent hospitalization in comparison with troponin T negative patients. Duration of stay in hospital is higher for hsTnT positive patients when compared with troponin negative patients. NYHA class and